MASTER®

USER'S MANUAL
INSTRUKCJA OBSŁUGI
РУКОВОДСТВО ПО ПРИЕМЕНЕНИЮ

WA 41 A
WA 59 A

UNIVERSAL OIL HEATERS
NAGRZEWNICE NA OLEJ UNIWERSALNY
НАГРЕВАТЕЛИ НА УНИВЕРСАЛЬНОЕ МАСЛО

OESA

Installation must be made in accordance with local regulations which may differ from this installation manual.
Montażu należy dokonać zgodnie z lokalnymi przepisami, które mogą się odbiegać od zaleceń w poniższej instrukcji obsługi.
Сборку следует провести в согласии с местными законами, которые могут отличаться от этого руководства.

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STRONA
СТРАНИЦА

ENGLISH

To obtain full benefit from the WA 41 A and trouble free operation, read the following instructions and information carefully.

DESCRIPTION AND FUNCTION

* The control panel incorporates a switch, a locking device for the fuel and a pilot light.
* The electric pump motor drives the fuel pump, which is positioned in the tank.
* The fuel pump delivers fuel to the combustion dish and is controlled by means of the button above the control panel,
  At position low, the consumption is approx. 2,5 l/h. At position high, the consumption is approx. 4,3 l/h.
  One and another depends on viscosity.
* The main fan is controlled by a thermostat. As soon as the combustion chamber has warmed up sufficiently, the fan starts to operate.
* The burner is equipped with an air intake fan to supply air for combustion. This air combustion fan stops when the flame has extinguished. Pipes ϕ 200 mm can be connected to this fan so that the combustion air can be sucked from outside the area to be heated.
* Most types of waste oil can be used, such as gearbox oil, gas oil, diesel oil, hydraulic oil, HBO 1, 2 and 3, but not those with a high viscosity, such as SAE90.
  DO NOT USE TRANSFORMER OIL WHICH MIGHT CONTAIN SUBSTANCES DETRIMENTAL TO THE PERFORMANCE OF THE BURNER (PCB)
* When the pump motor stops, the flame will extinguish once the fuel in the burner dish is exhausted.

WARNINGS

1 There could be a possible danger of explosion if the burner is reignited while it is still warm.
2 There must be sufficient air for combustion; make sure that the combustion air intake fan is never blocked.
3 Modifications made to the burner by dealer or end user, invalidate the manufacturer's warranty.

INSTALLATION

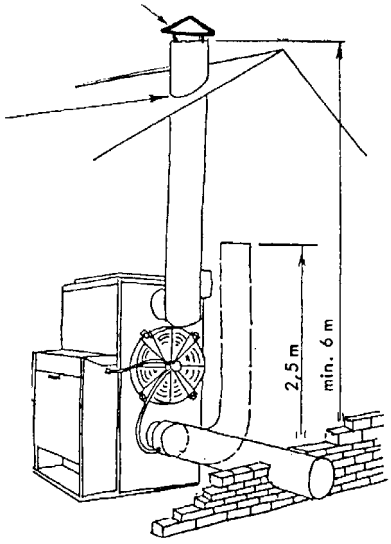
* For installation, consult the local prescriptions.
* The burner must be installed on a completely level, concrete floor.
* Check that the chose position presents no problem for:
  - electrical supply 230V/2Amp.;
  - flue pipe installation;
  - combustion air supply.
* Open the top cover of the burner and remove the cover of the combsution chamber.
* The following items are packed within the combustion chamber:
  1x T-piece with built-in draught stabiliser for flue pipe connection
  1x cleaning shovel
  1x scraping tool to remove residue from combustion dish
  1x combustion dish
  2x burner ring
  1x spare card to seal the bottom of combustion chamber
  2x handle with bolts
  1x pedal

FLUE PIPE

For clean and trouble free combustion, it is essential that the flue pipe is installed correctly.

a. minimum diameter of flue pipe: 150mm
b. check that flue connections are well sealed
c. minimum flue height: 5 m
d. the wind must be able to reach the top of the flue from all directions (e.g.: it may be necessary to extend flue above roof apex)
e. all pipes should be vertical if possible, keep horizontal pipes to the absolute minimum
f. avoid bends in the flue installation if possible but if unavoidable e.g. if flue has two bends because of installation through a wall or window, then:
   1. the pipe should be as high as possible within the building
   2. flue pipe outside the building should be insulated (double walled)
   3. the minimum height of the flue has to be increased to 7.5 m to compensate.

use a raincap



COMBUSTION CHAMBER (see figure 1)

* Place burner ring (1) in the burner pot and replace combustion chamber cover.
* Unlock the sliding bottom drawer (2) by means of pedal (3) and safety catch (6) and open.
* The bottom of the combustion chamber and combustion dish are now accessible, see figure 2.
  Ignition and cleaning can now be dealt with easily.

IGNITION PROCEDURE

1. Fill the tank with fuel. Slide the locking button on the control panel vertically to open the tank, which hinges forward.
2. Switch to "0"; connect plug to electricity sypply and switch on at socket.
3. Put capacity regulator in low position.
4. Pour apporx. 1/3 litre of paraffin in the combustion dish. Crumple some paper into a ball, light it and drop into the dish to ignite the oil. Close and lock the sliding drawer. Check through the top cover that the sealing around the bottom of the combustion chamber is visible.
5. Switch to "1". After about 5 minutes the combustion chamber will be warmed up sufficiently for the main fan and pump motor to come into operation. The orange pilot light will illuminate.
6. After approx. 30 minutes, make any necessary adjustments to the draught stabiliser.
7. During initial commissioning burn, there will be some fumes from the heat resistant paint finish and because the combustion chamber has been oiled against corrosion. These fumes will cease after about 30 to 40 minutes.

SAFEGUARDS

* The burner is equipped with a thermostat controlling the flame. Should the flame be extinguished for any reason, this thermostat will stop the fuel pump as well as the main fan. For causes, see chapter "Location of faults".
* An overheating thermostat which shuts off the fuel supply completely is reset by means of a push button in the burner. For causes, see chapter "Location of faults".
* The fuel supply system is equipped with an "overflow tube", through which the oil flows back into the tank incase the pipe to the burner becomes obstructed. After the flame has extinguished, the flame control thermostat will switch off the burner. For causes, see chapter "Location of faults".
* The burner is equipped with an "overflow security", located underneath the bottom of the combustion chamber. This will come into operation if, over a period, the fuel is not burnt completely. The excess fuel will flow from the combustion dish, via an inlet tube, into a small container. This container is positioned on a spring-loaded micro switch. As soon as this container is half full, the fuel pump is switched off automatically. For causes, see chapter "Location of faults".
* The air combustion fan is equipped with a thermostat.

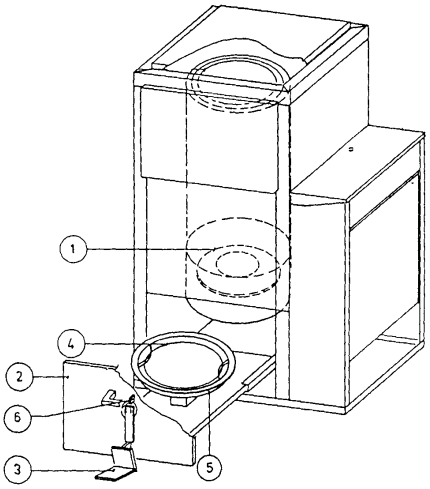


Figure 1

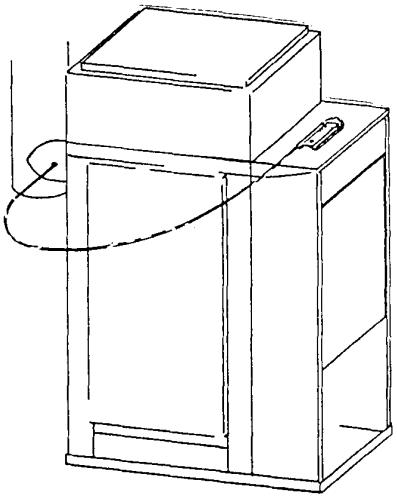
MAINTENANCE

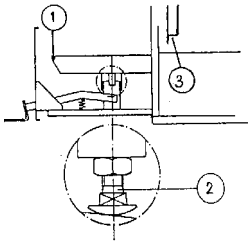
The heater requires very little maintenance and the regularity of such maintenance will depend greatly on the type(s) of waste oil being burnt. The cleaner the fuel, the less maintenance is required.

In general:
* clean combustion dish and overflow tube daily;
* clean burner pot, burner ring and combustion chamber at least once a week. Ensure that the air intake holes of combustion chamber and lower side (3) at bottem connection are not obstructed;
* clean heat exchanger, fuel supply pipe, tank and filter once per heating season;
* combustion chamber bottom: as soon as the seal around the bottom of the combustion chamber is no longer visible, it is essential that it is replaced, normally this is once per heating season.
* Clean filling sieve, fuel tank and filter regularly.
* The water in the tank can be drained by means of a tap at the bottom of the tank.

TAKING OUT OF OPERATION
* Switch to position "0". The fuel pump will stop and the flame will be extinguished once the oil in the combustion chamber is burnt.
* Remove the plug from the wall socket after the air intake fan has cooled down.
* If the burner is not to be used for a long period, combustion chamber, combustion dish, heat exchanger and tank should be cleaned carefully and protected against corrosion.

The heater is delivered with a spare seal. If this seal is not replaced at the appropriate time, leakages causing soot formation may occur. The pedal assembly is equipped with an adjusting screw (2).
If leakages occur or replacement of the seal is necessary, adjust this screw so that the bottom of the combustion chamber is set at more pres-sure against the chamber.





LOCATION OF FAULTS							CHECK: A. Electrical connection. B. Positioning of burner pan and burner ring. C. Flue installation, see page 1.	
A	B	C	D	E	F			
Flame extinguished immediately after ignition	Flame extinguishes after the main fan has started	Soot formation in burner pot and combustion chamber	Heater stops after 15 min or longer period	Heater heats insufficiently	Overflow security is filled with oil		**CAUSE**	**SOLUTION**
	1		7	5			Fuel tank is empty or filter is obstructed.	Clean filter.
2		2					Combustion air fan does not work.	Check: if plug is in socket. Check: if fan motor is blocked. Check: electrical connections and thermostat. Check: air supply to the fan.
	3		5	3			Supply tube is obstructed.	Fuel flows into tank via return pipe, clean fuel supply tube.
	4		4				Pump motor is not working.	Check if pump shaft can be turned by hand. if not, remove and clean pump. Check if oil is too viscously: turn capacity regulator to position high. Check overflow security switch by moving the overflow tray a few times up and down. Control switch is not pushed in or drawn out well.
3	5		1				Overheating security has switched off heater. (Reset this security by pushing the button in the heater)	Too much oil has been used for the ignition procedure. Check if main fan is not blocked and working. Check fan and electric connections. Capacitor in switch box may be faulty. Overflow security is filled with oil, see F.
		1			1		Burner pan, burner ring and burner pot have not been cleaned regularly.	Clean burner pan daily. Clean burner pot and burner ring at least once a week.
		4					Poor connection between sliding panel with bottom and burner pot.	Check packing and slide construction. Replace packing if necessary. Adjust set screw for spring pressure.
4							Flame control thermostat is defective.	Connect the two wires to the thermostat (attention, 220V) on nr. 5 and 12 If main blower starts to rotate, this indicates a defective thermostat.
1		3	3	2	2		Insufficient chimney draught. Min. draught = 2 mmwk	Check flue for leakages. Check if draught stabiliser is in closed position. Check flue for obstruction. Check flue height. Min. height is 5 m. If there is more than 1 elbow or horizontal pipe, the flue height must be extended.
			2	1	3		Fuel does not vaporise sufficiently. After some time the overflow security switches off heater.	Viscosity of oil is too high. Mix with paraffin or diesel oil.
	2		6	4			Tank contains water.	Clean tank. Drain by means of drain plug beneath the tank.

Technical Data / Dane Techniczne / Технические данные

	Jednostka	WA 41 A	WA 59 A
Capacity min. bruto * Wydajność minimalna brutto Тепловая мощность мин. брутто	BTU/h kW	82.000 24	123.000 36
Capacity max. bruto * Wydajność maksymalna brutto Тепловая мощность макс. брутто	BTU/h kW	140.000 41	202.000 59
Fuel Consumption min. Zużycie paliwa min. Расход топлива мин.	l/h	2,5	3,8
Fuel Consumption max. Zużycie paliwa max. Расход топлива макс	l/h	4,3	6,2
Burning duration with full tank min. Czas pracy na pełnym zbiorniku paliwa – wydajność min. Время работы с полным топливным баком – мин.мощность	h		
Burning duration with full tank max. Czas pracy na pełnym zbiorniku paliwa – wydajność max. Время работы с полным топливным баком – мин.мощность	h		
Heated Airflow Przepływ powietrza Нагретый воздушный поток	m3/h	3000	3000
Voltage Zasilanie sieciowe Электрическое снабжение	V/Hz	220-240 / 50	220-240 / 50
Power Consumption Pobór mocy Потребляемый ток	A	1,1	1,2
Flue Diameter Średnica rury kominowej Диаметр патрубка для отвода отработанных газов	mm	150	200
Width Szerokość Ширина	cm	820	820
Length Długość Длина	cm	880	880
Weight Waga Вес	kg	135	175
Height Wysokość Высота	cm	1.080	1.290

* Depending on viscosity
* W zależności od lepkości
* В зависимости от вязкости

WIRING DIAGRAM / SCHEMAT ELEKTRYCZNY / ЭЛЕКТРИЧЕСКАЯ СХЕМА

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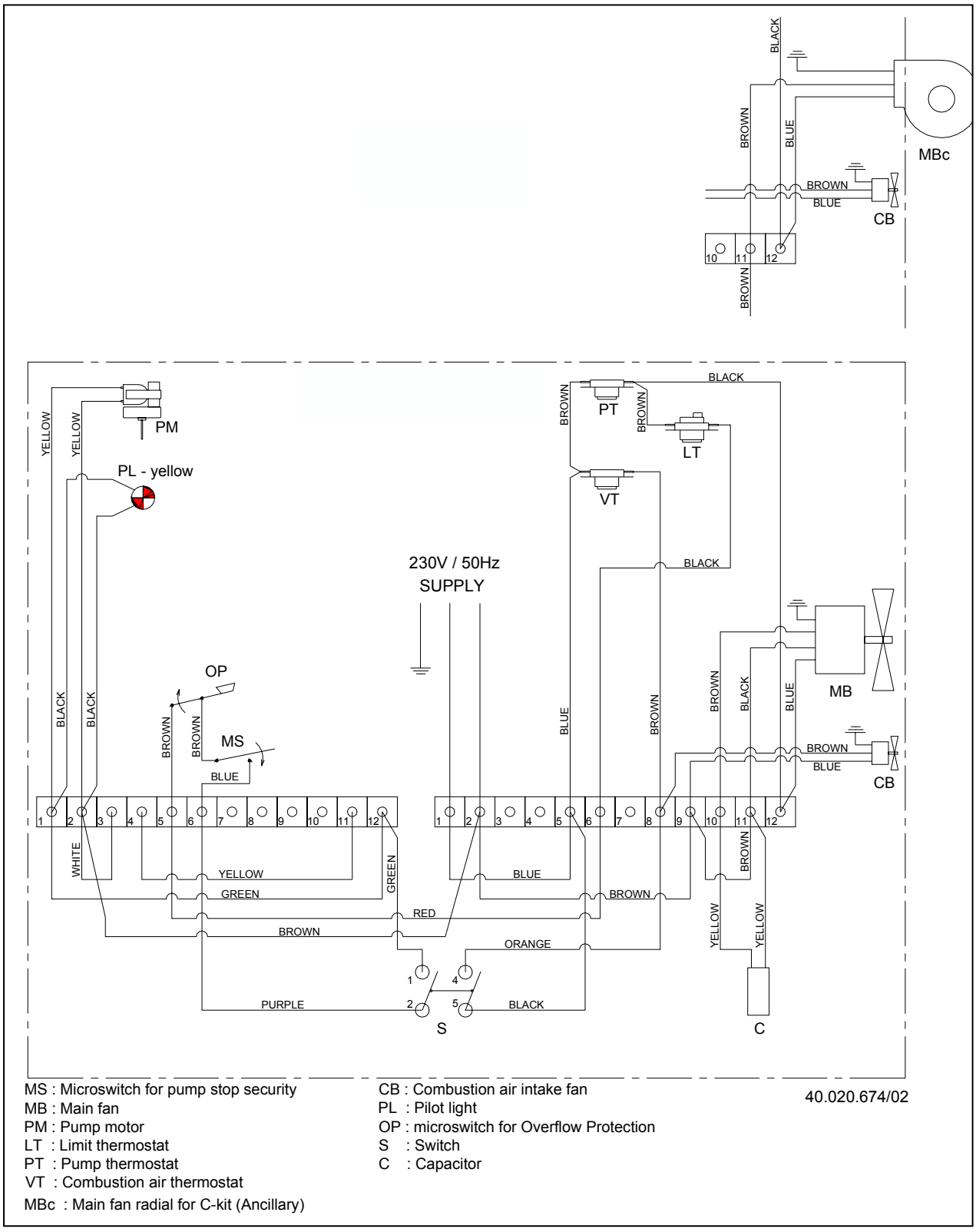

MS : Microswitch for pump stop security
MB : Main fan
PM : Pump motor
LT : Limit thermostat
PT : Pump thermostat
VT : Combustion air thermostat
MBc : Main fan radial for C-kit (Ancillary)

CB : Combustion air intake fan
PL : Pilot light
OP : microswitch for Overflow Protection
S : Switch
C : Capacitor

40.020.674/02

FL Flashlight /Lamka kontrolna / Сигнальный свет
MS Microswitch / Mikrowyłącznik / Микропереключатель
MB Main fan / Wentylator główny / Главный вентилятор
PM Pump motor / Silnik pompy / Двигатель насоса
LT Overheating thermostat / Termostat przegrzania /Термостат перегрева
T Thermostat / Termostat / Термостат
CB Combustion air intake fan / Wentylator komory spalania /Вентилятор камеры сгорания
PL Pilot light / Lamka kontrolna /Контрольный свет
OS Overflow security / Zabezpieczenie przed przelewem / Защита от перелива
S Switch / Przełącznik / Переключатель
C Condensor / Kondensator /Конденсатор

WIRING DIAGRAM / SCHEMAT ELEKTRYCZNY / ЭЛЕКТРИЧЕСКАЯ СХЕМА

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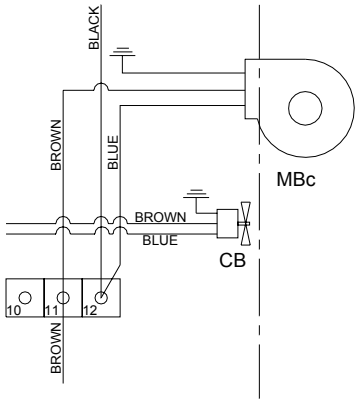

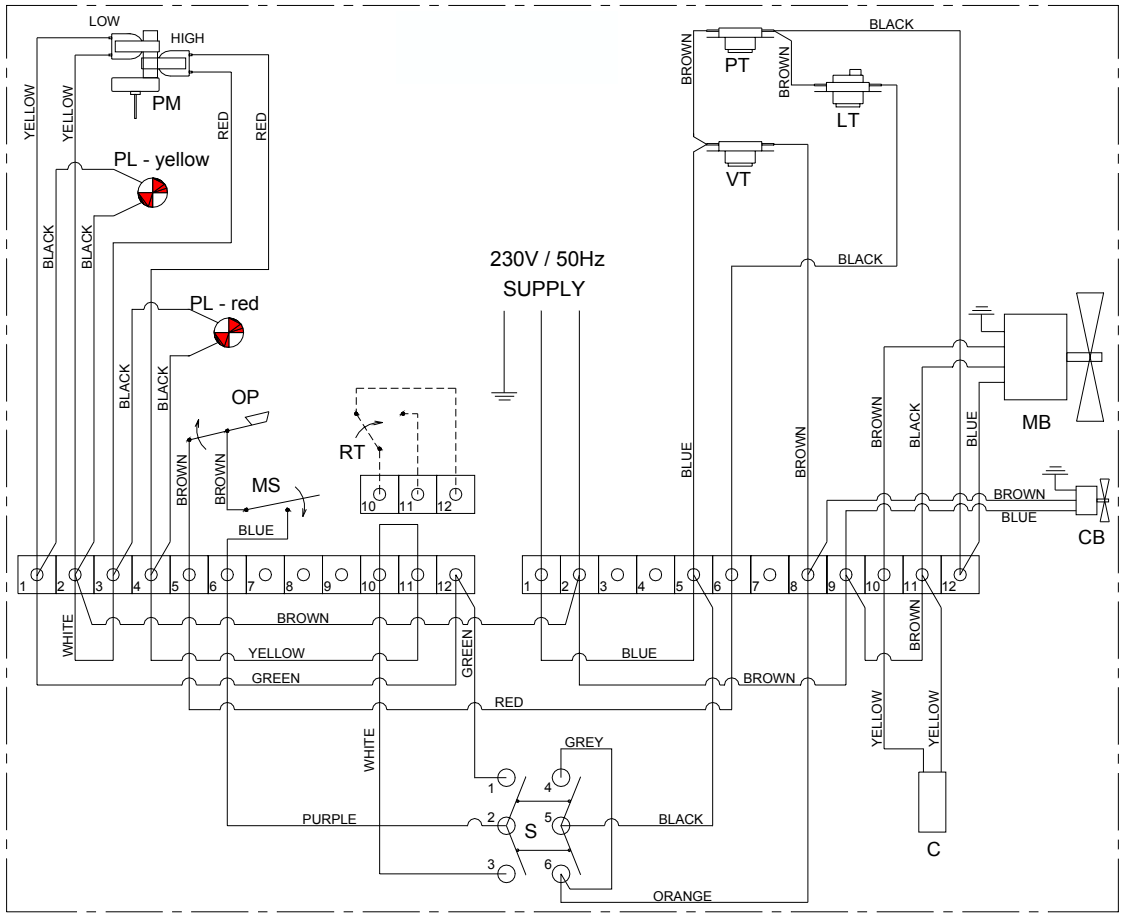

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MS : Microswitch for pump stop security
MB : Main fan
PM : Pump motor
LT : Limit thermostat
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CB : Combustion air intake fan
PL : Pilot light
OP : microswitch for Overflow Protection
S : Switch
C : Capacitor

MBc : Main fan radial for C-kit (Ancillary)

RT : Room thermostat (Accessory for AT-500)

FL Flashlight /Lamka kontrolna / Сигнальный свет
MS Microswitch / Mikrowyłącznik / Микропереключатель
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S Switch / Przełącznik / Переключатель
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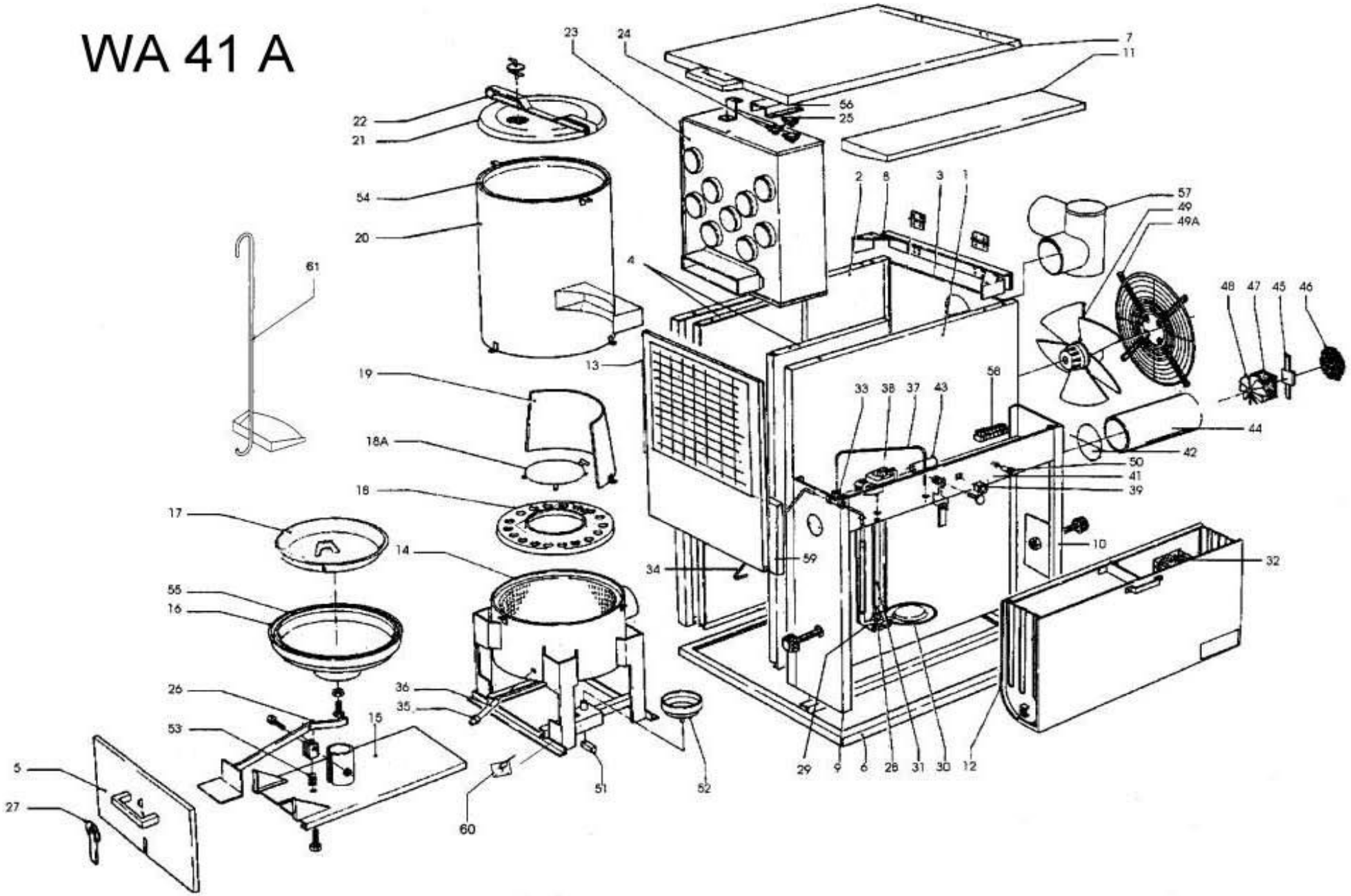
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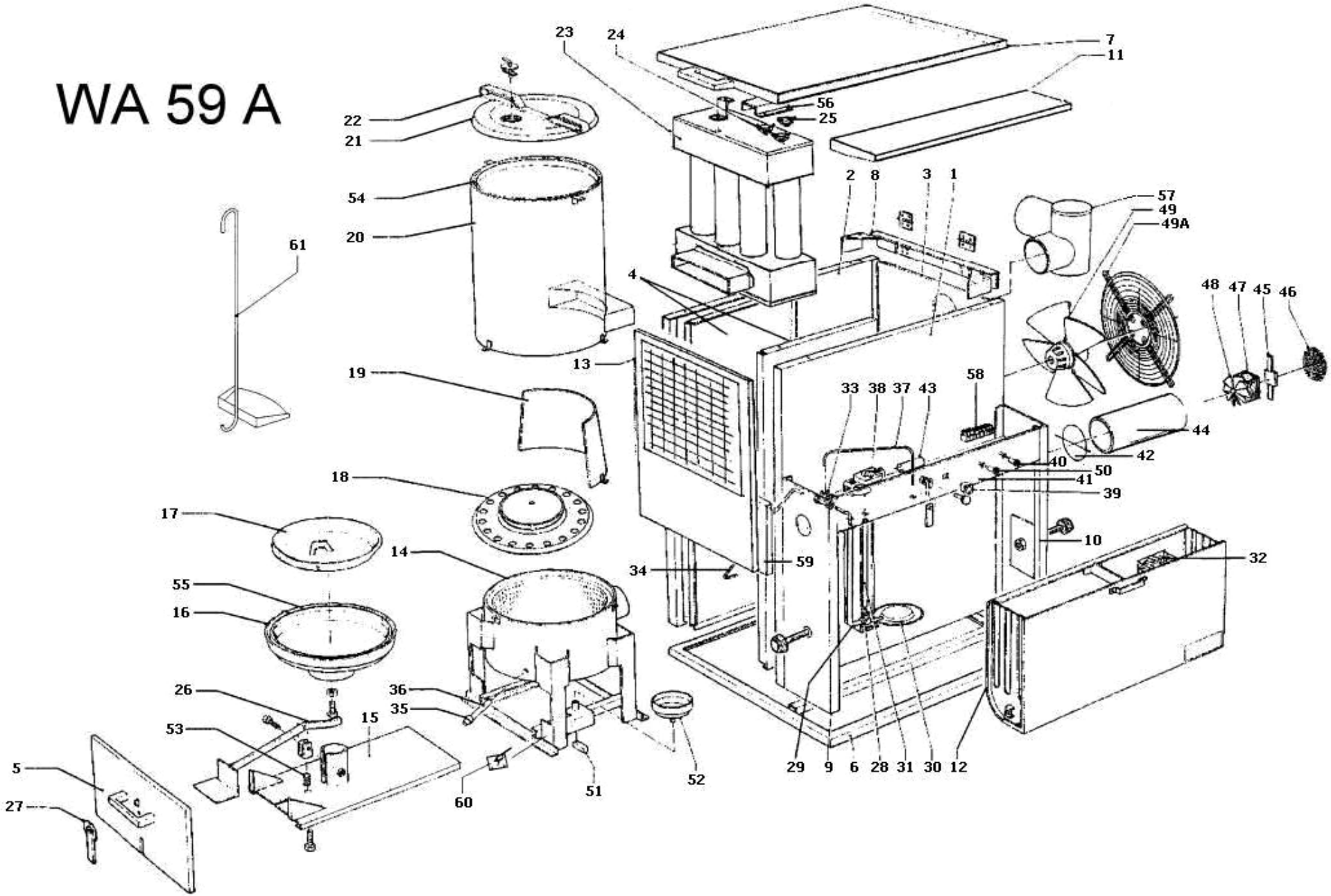
Pos.	Code NR	Description
1	S/R	SIDE PLATE LEFT
2	S/R	SIDE PLATE RIGHT
3	S/R	BACK PANEL
4	S/R	COOLING PLATE
5	S/R	SLIDING PANEL
6	S/R	BOTTOM PANEL
7	S/R	TOP LID
8	S/R	FRAME
9	S/R	SIDE PANEL LEFT
10	S/R	SIDE PANEL RIGHT
11	S/R	TOP LID OF CONTROL PANEL
12	4506.137	TANK
13	S/R	BLOWING GRILL
14	4506.141	VAPORIZING SECTION
15	S/R	SLIDER
16	4506.138	BOTTOM
17	4506.021	COMBUSTION DISH
18	4506.043	BURNER RING
18a	4506.044	HEAT SHIELD WA 41A
19	4506.133	BAFFLE PLATE
20	4506.136	COMBUSTION CHAMBER
21	4506.130	COVER COMBUSTION CHAMBER
22	4506.125	LOCKING BAR
23	4506.140	HEAT EXCHANGER
24	4506.019	THERMOSTAT
25	4506.020	OVERHEAT THERMOSTAT
26	4506.126	LEVER
27	S/R	LOCKING DEVICE
28	4506.006	FUEL PUMP
29	S/R	FUEL PUMP SUPPORT
30	4506.005	FILTER
31	4506.123	DRIVE SHAFT
32	4506.134	FUEL TANK FILTER
33	S/R	3-WAY CONNECTOR
34	S/R	SUPPLY PIPE
35	4506.131	CONNECTOR
36	4506.118	DRIP FEED PIPE
37	4506.122	RETURN LINE
38	4506.003	PUMP MOTOR
39	4506.121	SWITCH
40	N/A	PILOT LIGHT RED
41	S/R	CONTROL PANEL
42	S/R	AIR INLET PLATE
43	4506.119	CAPACITOR
44	S/R	FAN HOUSING
45	S/R	MOTOR CLIP
46	S/R	PROTECTION GRILL
47	4506.135	MOTOR
48	4506.116	COMBUSTION FAN
49	4506.139	MAIN FAN
49a	4506.132	PROTECTION GRILL
50	4506.117	PILOT LIGHT YELLOW
51	4506.202	MICRO SWITCH
52	4506.124	OVERFLOW TRAY
53	4506.128	COMPRESION SPRING
54	4506.120	SEALING CORD
55	4506.129	SEALING CORD
56	S/R	THERMOSTAT BRACKET
57	4506.002	T-PIECE
58	4506.115	CROWN STRIP
59	4506.127	COOLING PLATE
60	S/R	MICRO SWITCH PUMP STOP
61	S/R	SHOWEL

S/R – Parts available by special request only

WA 59 A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16	4506.138	BOTTOM
17	4506.021	COMBUSTION DISH
18	4506.149	BURNER RING
19	4506.133	BAFFLE PLATE
20	4506.145	COMBUSTION CHAMBER
21	4506.130	COVER COMBUSTION CHAMBER
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S/R – Parts available by special request only

DESA POLAND Sp. z o.o.
Ul. Rolna 8 Sady
62-080 Tarnowo Podgórne

DESA POLAND Sp. z o.o.

DECLARATION OF CONFORMITY
DEKLARACJA ZGODNOŚCI

We hereby declare that the technical products :
Oświadcza się, że urządzenia :

MASTER®

uniwersal oil heaters :
nagrzewnice na olej uniwersalny :

WA 29 A
WA 41 A
WA 59 A

are in conformity with:
są zgodne z :

LOW VOLTAGE DIRECTIVE :
DYREKTYWĄ NISKONAPIĘCIOWĄ : **73/23/EWG**

ELECTRO MAGNETIC COMPATIBILITY DIRECTIVE :
DYREKTYWĄ KOMPATYBILNOŚCI ELEKTRYMAGNETYCZNEJ : **89/336/EWG**

MACHINERY DIRECTIVE :
DYREKTYWĄ MASZYNOWĄ : **98/37/EWG**

Technical standards and specifications :
Dokumenty odniesienia :

EN 60335

The products are provided with CE a marking of conformity.
Wyroby są dostarczane z jako oznaczenie zgodności.

CE marking was made in 2004.
Oznakowanie CE zostało umieszczone w 2004r.

DESA POLAND Sp. z o.o.
ul. Rolna 8, Sady
62-080 TARNOWO PODGÓRNE
tel. (0-61) 654 4000, fax (0-61) 654 4001
NIP 779-20-08-988 (3)

.....
Manufacturer's stampo
Pieczątka zakładu

DESA POLAND Sp. z o.o.
Paweł Dobroń
Dyrektor Handlowy
24 XI 2005
.....
Date and signature of autorized person
Data i podpis osoby upoważnionej